

6.0 SELECTED PLAN

This section presents details for Plan B, which is the selected plan. It provides additional information on project design, baseline cost estimates, plan economics, mitigation requirements, and implementation of the plan.

6.1 PLAN DESCRIPTION

Plan B consists of an earthen levee that would protect most of Milton from flooding up to the 250-year flood level with a 90% certainty. The levee alignment is 8,312 feet (1.57 miles) long and would have an average height of 19.0 feet. The levee embankment has a top width of 10 feet and side slopes of 2.5 to 1. The project begins in east Milton approximately 1,350 feet east of the junction of Johns Creek Road and US 60. From the US 60 highway embankment (Station 0+00) the levee extends southwesterly approximately 2,000 feet across a gravel pit before reaching Mud River (Station 20+50), then extends westerly across bottomland before again crossing Mud River channel (Station 39+50) and Mud River Road north of the bridge (Station 41+75). A stoplog gate closure is provided across Mud River Road as part of the levee plan. The levee embankment continues generally west and southwest for approximately 2000 feet along the north river bank to Newmans Branch (Station 61+70), and then in a westerly direction along Mud River to high ground near the embankment of Abbot Street about 500 feet south of US 60 (Station 83+12).

The selected plan requires two relatively small pump stations, one at Johns Branch and the other at Newmans Branch. A 30,000 gpm pump station and gatewell would be constructed to permit the interior drainage from Johns Branch to be pumped out of the protected area in an event of a storm up to 100-year frequency. A ponding area is created with Plan B in the area between the levee embankment, which is south of Mud River, and the existing river channel. This area of approximately 13 acres has a ponding capacity of 245 acre feet. Because of the large storage capacity of this area, the plan only a small pump station is required. A similar size pump station is required where the levee crosses Newmans Branch. With ponding available along the creek, and with the construction of a small pond (2 acres), a total of about 88 acre feet of storage is provided. Therefore, a pump station (30,000 gpm) is sufficient to discharge the interior drainage from Newmans Branch in the event of a 100-year storm.

Plan B incorporates a section of new channel in the upper portion of the project above Mud River Road bridge. The levee alignment which extends across the bottomland rather than along the north river bank shortens the length of the project by approximately 500 feet. This alignment avoids acquisition of several businesses and residences along the river bank, but requires the construction of approximately 4,084 feet of new river channel. The new channel would have a natural design, with as much sinuosity as practicable to simulate the existing stream. The channel cross section would not be trapezoidal, but have a more natural shape, and maintenance would not be required. Bank stability would be maintained by vegetation not stone, and clusters of boulders would be placed in the channel to help provide aquatic habitat. The land area between the old and new channels would be utilized for ponding areas. Details for the project mitigation plan are provided in Section 6.2.

The levee is designed to have a solid core with a pile cutoff wall. It is estimated that 364,000 cubic yards of material would be needed to construct the embankment. Much of the material for levee construction would come for excavation of the new channel section and two ponding areas near the pump stations. If additional construction material is needed, it would come from an identified borrow area of approximately 15 acres located just south of the new section. See Figure 6-1 below.

A water supply dam is located approximately in the upper third of the project area. Depths upstream of the dam range from 10 to 15 feet deep in the mid-channel, while downstream of the dam and for most of the project area the channel is approximately 2 to 3 feet deep. The water supply dam would be replaced in the new channel.

Plan B requires the acquisition of 119 tracts of land consisting of approximately 145 acres. Real estate acquisition includes 6 residences and one business. Relocations would involve sewer line, water line, telephone lines, and power lines within the project area.

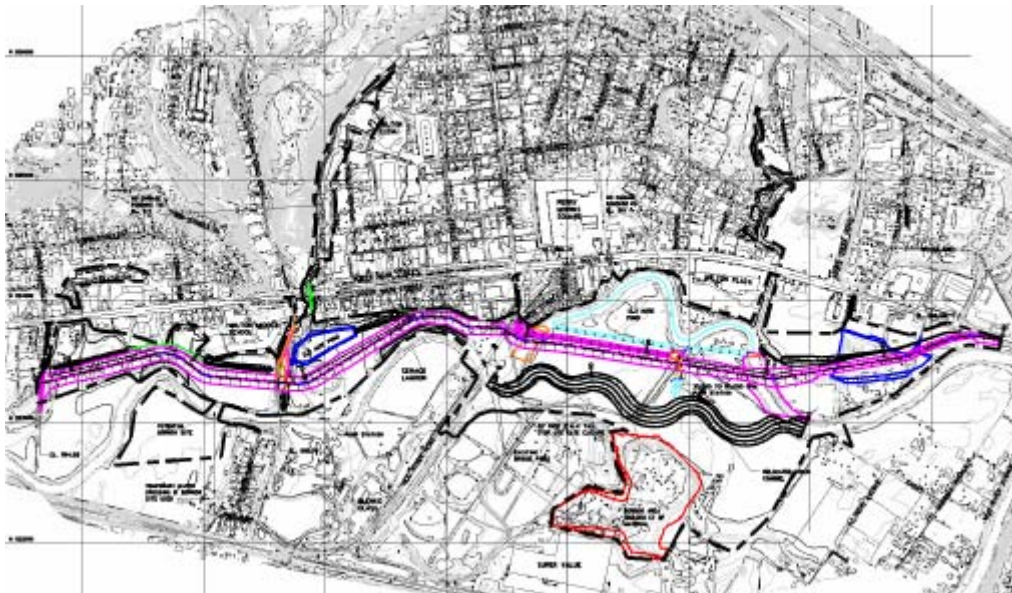


Figure 6-1 Selected Plan

6.2 MITIGATION PLAN

Corps of Engineers planning policy provides that a mitigation plan be developed for the National Economic Development (NED) Plan and for the selected plan if not the same. The following mitigation plan has been developed for Plan B, which is the plan that offers the greatest benefits at the least cost and is the Selected Plan.

6.2.1 Baseline Conditions

Most of riparian areas within the project area can be characterized as bottomland hardwood (BH) habitat. Common species include silver maple (*Acer saccharinum*),

sycamore (*Platanus occidentalis*), tulip tree (*Liriodendron tulipifera*), slippery elm (*Ulmus rubra*), and river birch (*Betula nigra*). Much of this habitat type within the project area has been subject to disturbances such as occasional cutting and clearing. As a result, fully mature stands are interspersed with areas of habitat that are in earlier stages of regrowth. While still supporting many of the same plant species, the canopy layer is not as dense, trees may not be as large, and a greater proportion of shrub and herb species are present.

Mixed hardwoods (MH) is present in limited quantities near the termini of the project, adjacent to residential areas, and also along two tributaries north of the Mud River. MH in the project area contain trees such as oaks (*Quercus spp.*), black cherry (*Prunus serotina*), beech (*Fagus americana*), sassafras (*Sassafras albidum*), and white pine (*Pinus strobus*). The understory vegetation of herbs and shrubs commonly includes hornbeam (*Carpinus caroliniana*), flowering dogwood (*Cornus florida*), poison ivy (*Toxicodendron radicans*), spring beauty (*Claytonia virginica*), wood violets (*Viola spp.*), Christmas fern (*Polystichum acrostichoides*), briars (*Smilax spp.*), and trumpet creeper (*Campis radicans*).

Open Agricultural (OA) habitats within the project area are generally grass or hay fields that are mowed at least annually, or areas that are planted with crops. Corn appears to be the most common crop within the study area, although some areas have been planted with tobacco in the past.

The Mud River is a warm-water, perennial stream that meanders along a relatively flat gradient of approximately 2 feet per mile through the project area. Due to this low gradient, velocities are typically slow in the river. Riffles are infrequent and the river is characterized by the presence of long pools. Consistent with its name, substrates consist mostly of silts and sands, and turbidity tends to be high. A large amount of fallen timber and woody debris is present in the river, providing good cover and structural diversity. A water supply dam is located approximately in the upper third of the project area. Depths upstream of the dam range from 10 to 15 feet deep in the mid-channel, while downstream of the dam and for most of the project area the channel is approximately 2 to 3 feet deep. Average width of the channel is approximately 60 feet.

Two small tributaries flow through the project area on the north side of the Mud River. Johns Branch is located in the upper third of the project, while Newman's Branch is located in the lower third. Both streams have been heavily channelized within the proposed CWLs, and as a result do not provide high quality stream habitat. However, less alteration has occurred in their upstream reaches. These streams have steeper gradients than the Mud River and have small riffle-pool complexes. Both streams are bordered by steeper slopes to their west and are at least in portion bordered by MH habitat. Newman's Branch is bordered by immature BH near its' confluence with the Mud River. A number of other small unnamed streams occur throughout the project area creating a total of approximately 9,400 linear feet of jurisdictional stream habitat.

A large wetland complex exists on the north side of the river near the downstream terminus of the project. The main portion of this complex consists of a palustrine forested (PFO) wetland that is dominated by sycamore, box-elder, black willow, and river birch. Water purslane (*Ludwigia palustris*) is common in the herbaceous layer. At least 3.35 acres of this habitat type occurs within the Construction Work Limits (CWL). This

wetland extends south of the CWL, but that portion of the wetland was not delineated since it is located outside the CWL. A 0.27 acre scrub-shrub (PSS) wetland occurs just northwest of the PFO wetland. Another wetland complex occurs on the south side of the river in the upper third of the project and south of the old field habitat used for parking during the pumpkin festival. This low lying sluice appears to be part of a remnant channel that follows a westerly-northwesterly meandering direction. The southern-most portion of this sluice has been identified as a PFO/PSS wetland that is dominated by sedges (*Carex intumescens*), Pennsylvania smartweed (*Polygonum pensylvanicum*), buttonbush, and brambles. The extent of this wetland was not delineated, however it is estimated that there are at least 10 acres. Although the northern end of this sluice was not delineated as a jurisdictional wetland (it appears to have been plowed and mowed in the recent past), obvious differences in vegetation and topography are visually apparent.

An open water habitat area occurs southeast of Milton Plaza that has been artificially created by the excavation of borrow and fill material. The area is at least seasonally inundated and maintains a hydrologic connection to the river. While a limited amount of vegetation was present within the open water area at the time of the HEP, aquatic vegetation may become even more apparent during the growing season or may begin to colonize that area if disturbance is limited.

6.2.2 Potential Impacts

Future Without-Project Conditions

Based on reviews of aerial photography and maps of the project area from 1938 to present, riparian habitats in the project area have generally increased somewhat in quantity and quality over time. Abandonment of other areas, however has allowed for natural succession to old-field habitat. Riparian areas have not been significantly disturbed and are maturing.

Development within the 100-year flood plain has increased from 19% of the land area in 1938 to approximately 55% in 2003. Land use in the project area has not changed significantly over the past 50 years except for infrastructure improvements and recreational areas. However, after the recent major flood events, 16 residential homes were purchased and removed by FEMA. New construction is limited within the City limits by Cabell County Planning Commission. More abandonment of properties would be expected due to the risk of future flooding and rising cost for flood insurance. Similarly, limited development along the streams in the project area would be expected. Therefore the quality, and perhaps quantity, of riparian habitat could be expected to improve, except for recurring floods that may destroy riparian habitat.

Future With-Project Conditions

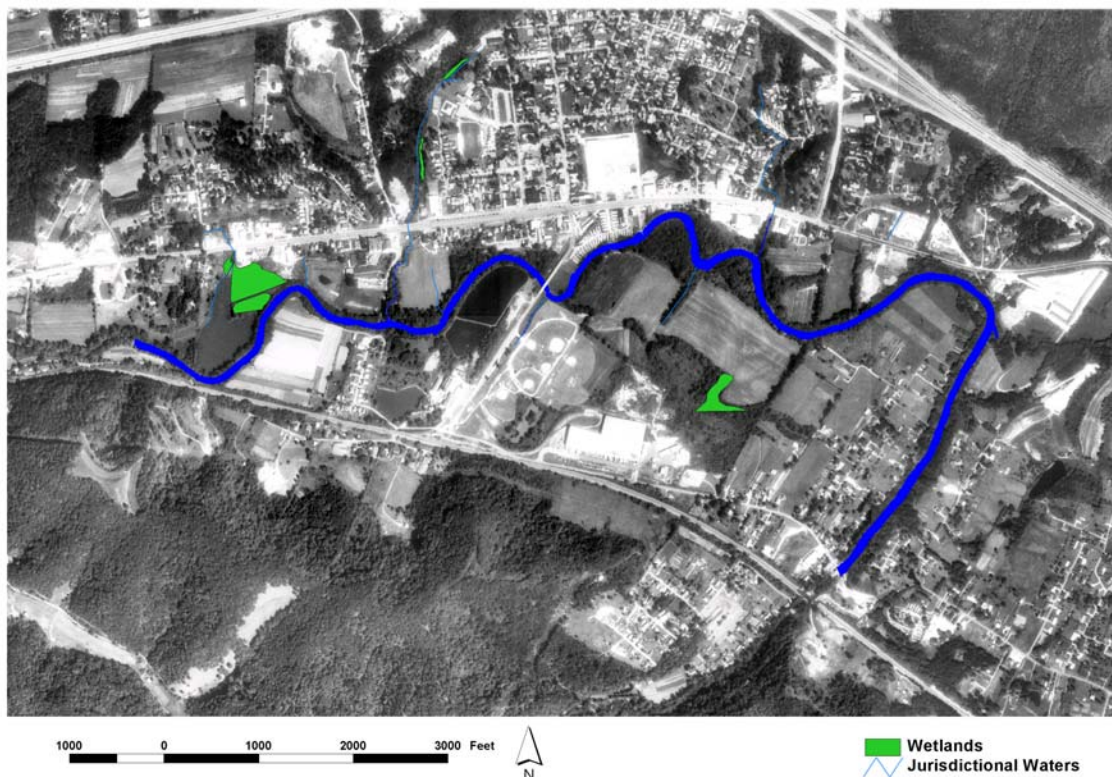
Construction of Plan B, the selected plan, would result in impacts to wetlands, water and terrestrial resources and include direct habitat losses due to construction activities, drainage patterns, recreation and socioeconomic impacts. The majority of the impacts are attributable to construction of the levee embankment, however excavation for a relocated section of Mud River channel and a soil borrow would impact old-field and mixed hardwood habitats.

All impacts to terrestrial habitats would occur within the CWL of the proposed project. Total length of the levee is about 8,300 feet. About 69.9 acres would be used to construct the project, plus an additional including 103.0 acres for construction work limits to either side of the levee. The acreage occupied by the structure would be permanently affected. Table 6-1, below, summarizes habitats that would be impacted by construction of the levee system. Figure 6-2 shows the location of the jurisdictional wetlands that will be impacted.

Table 6-1.
Habitat Impacts within CWL of floodwall/levee.

Habitat Type	Estimated Area Permanently Affected (acres)
Bottomland hardwoods	18.4
Mixed hardwoods	3.2
Open/Agricultural/Barren	21.2
PFO Wetlands	1.9
Open Water	3.7
Other Water Resources	4.2
Urban	13.3
Total	65.9

Figure 6-2. Jurisdictional Wetlands



6.2.3 Impact Assessment

A Modified HEP for the project area was conducted on January 14, 15, 2003 by a team of representatives of the Huntington District, US Fish and Wildlife Service and WV Department of Natural Resources. All decisions were made in agreement with the agencies. For a Modified HEP, habitat was rated on its overall suitability to support all wildlife which would be expected to use each cover type, and no evaluation species were selected. A subjective value of one to ten was assessed on the suitability of the habitat to provide food, cover, and reproduction requirements for wildlife species that would be expected to use that habitat type. Prior to rating each sample area, the team discussed components of each habitat type that would be evaluated when determining ratings. For example, ratings for bottomland hardwood areas would be based on the presence of snags, mast production, estimated average Diameter at Breast Height (DBH) of existing trees, proximity to water, and the size of the area. A value of 10 reflects optimum suitability for that habitat type in the region. Final rating for each area was determined by averaging the ratings of all team members. Since different criteria are used to rate each habitat type, ratings would only be used to compare sample sites within the same habitat type (e.g. a HSI of 10 for a Bottomland Hardwood sites is not the same as a 10 for an Open Agricultural site). Although this approach is based on the professional judgment of the team members and is therefore, subjective, its value results from the consensus of all agencies involved in the HEP.

The following terrestrial habitat types were identified within the project area: bottomland hardwoods, urban, mixed hardwoods, open agricultural, and early oldfield. Wetlands, streams and riverine and open water habitat types were also present within the project area. The team identified a number of unique habitat areas that although not classified as jurisdictional wetlands, provided many of the same functions and values, or were deemed worthy of special consideration. While these areas were not all rated, data were collected by the team for additional consideration. In addition, RAPID Bioassessment Protocol Ratings were given to portions of the Mud River during Marshall Universities' reconnaissance study and quantification of these areas has been incorporated into the Draft SEIS. Impacts to wetlands, streams, and riverine habitat are regulated by the Clean Water Act.

6.2.4 Engineering Design and Construction Specifications Which Avoid or Minimize Effects

Throughout the planning process, consideration has been given to minimizing environmental impacts through good engineering and design. Although direct losses of certain habitats from construction are unavoidable, the levee alignment has been adjusted to maximize areas between the levee and the streams. All lands acquired for project construction that are not permanently affected by the footprint of the levee would be developed or enhanced to benefit wildlife resources in coordination with the U.S. Fish and Wildlife Service (USFWS) and West Virginia Department of Natural Resources (WVDNR). Any project lands riverward of the levee would be enhanced to the extent possible to form a riparian border of Bottomland Hardwoods (BH). Existing BH habitats could be widened, additional trees could be planted, and restrictive covenants placed so that certain trees would not be cut. Borrow areas would be graded and planted with vegetation but will be utilized as parking for the Fairground.

A relocation of a section of Mud River is a necessary part of the selected levee plan. A natural channel design was determined to best aid in minimizing impacts from the channel relocation rather than utilizing a typical trapezoidal channel design. Since the new section of channel will not be critically used for any type of flood conveyance, a less restrictive channel design was possible.

The channel would be constructed in a manner that would require little maintenance. Dredging, clearing, snagging, or spraying to control vegetation within the channel would be avoided. The new channel would be constructed prior to initiating any instream work in the existing channel, and the channel would be dewatered during low flow periods in a manner that would minimize the loss of aquatic life.

6.2.5 Formulation of Mitigation Alternatives

This section discusses the formulation of necessary mitigation for impacts associated with the selected plan. Aquatic mitigation requirements are based on replacement ratios typically used for Section 401 Water Quality Certification in West Virginia. Terrestrial mitigation is based on habitat units.

Wetland Mitigation

Wetland mitigation, in accordance with the West Virginia State 401 Water Quality Certification, are typically a 3:1 mitigation ratio. A total of 5.7 acres of PFO wetlands, 8 acres of low lying ephemeral pools or PEM type habitat, and 0.33 acres of black willow habitat would be created.

Detailed mitigation plans to address impacts to the Mud River have been designed in cooperation with US Fish and Wildlife Service and WVDNR. This plan would incorporate a FA of existing conditions; creation of a channel that mimics existing characteristics of the Mud River - including riparian habitat, channel meanders, and instream structure; contingency plans and financial assurances in case mitigation fails; and long-term monitoring to ensure mitigative success.

Terrestrial Mitigation

Terrestrial mitigation would be developed within the CWL to produce 13.4 HU of OA habitats, 1.9 HU of HW habitats, and 13.1 HU of BH habitats. Mitigation for terrestrial impacts would be accomplished by planting existing species and protecting with restrictive deed covenants the acreage between levee sections and the streams that would be purchased as part of the Milton LPP. These restrictions would preclude any clearing of vegetation.

Based on the 2003 Modified HEP, a total of 28.36 habitat units (HU) would be needed to mitigate terrestrial impacts. This value was computed by multiplying the acreages for each affected habitat type by the appropriate HSI value from the 2003 Modified HEP to determine the number of habitat units (HU) needed to mitigate impacts. Table 6-2 shows the computation of habitat units required to mitigate terrestrial impacts (USFWS 2003).

Mitigation for all habitat types would involve development of target conditions that describe the characteristics to be achieved within the mitigation area. Target conditions will help to quantify the benefits that will occur, and could include parameters such as species diversity, percent cover, DBH of trees, or lack of disturbance. After mitigative features are constructed, periodic monitoring would occur to ensure that mitigation objectives are being met. Any contract issued for construction of the project would incorporate environmental conservation measures that the contractor would comply with during construction. Limits to the amount of clearing, sediment and erosion control measures, and restrictions in the nature and timing of instream work would be included.

Ponding Areas: Under Alternative BPlan B, a 2-acre ponding area for Newman's Branch would be created within the flood protection area where there is now a racetrack. An additional 13.3 acre ponding area for Johns Branch would be constructed. Ponding areas would be constructed in manner that would allow vegetation to become established and be low maintenance. Liners that would require replacement, and riprap that would require spraying or other methods of vegetation control, would be avoided.

Stream Habitats: Mitigation for impacts to stream channels is often difficult to develop and construct. Avoidance of impacts would be pursued to the extent possible. The ultimate level of impact to streams within the CWL will depend on the care that is taken during planning and construction to avoid disturbance to the stream channel and associated hydrology. Development of Best Management Practices to be used around streams during construction will be utilized. Alteration of stream channels would be limited to the minimum amount required for project construction, and would not be done in areas that will not be permanently affected by the project footprint. Stream crossings and culverts placed during construction would be removed and restored once construction is complete.

Riverine Impacts: The selected plan incorporates a channel relocation whereby 4,084 linear feet of existing Mud River would be replaced by into 4,084 linear feet of new channel. There will be a loss of functions when replacing natural channel with a newly constructed one. In order to address these losses, the relocated channel would provide at a minimum the same functions and values and the same length as the existing channel. All features of the mitigation plan would be developed in cooperation between the Corps and the resource agencies. The US Fish and Wildlife Service recommended the following approach in their Draft Coordination Act Report (DCAR) based on the information contained in the Corps' December 24, 2002 Regulatory Guidance Letter and State 401 Water Quality Certification Guidelines. The Final Mitigation Plan will be developed in Summer 2003 after the completion of the aquatic Functional Assessment.

Table 6-2.
Terrestrial impacts and required mitigation in habitat units (HU).

Habitat Type	Alternative B	
	Acres Impacted	HU
<i>Terrestrial Habitats</i>		
BLH	18.43	13.1
HW	3.16	1.9
OA	21.17	13.4
Subtotal	42.76	28.38
<i>Unique Habitat Areas</i>		
Open Water	3.68	2.6
Black Willow Area ¹	0.11	0.33
Low Swale ¹	4	8.0
Subtotal	7.79	10.99
<i>Waters of the U.S.</i>		
PFO ²	1.9	5.7
Riverine/Stream ³	4.14	NA
Subtotal	6.04	5.7
Total Acres of Impact for Mitigation	56.59	

1 HU provided for these habitat types is recommended based on State 401 Certification ratios for similar wetland habitats.

2. HU for this habitat type is required acres of mitigation as per State 401 Certification (at a 3:1 ratio)

3. Mitigation for this habitat type would be based on linear feet of impact + a functional assessment

A Functional Assessment (FA) of the Mud River including the area that is proposed to be relocated and reference reaches would be conducted. This FA will provide information regarding baseline and target conditions and would seek to quantify the characteristics of the existing Mud River, which would then be mimicked in a relocated channel, and/or restored in other areas of the river. Selected reference reaches would have similar channel patterns and profiles as found within the impacted reach, would have stable banks, and would be minimally disturbed.

Target conditions for the reconstructed reach, based on the FA, and performance standards to gauge compliance with the target conditions would then be developed. Any target conditions would be consistent with the existing characteristics of the Mud River. The reconstructed channel's pattern, dimension and profile would be consistent with the existing channel. Meander radius and spacing would be based on an analysis of existing reference reaches. Riparian habitat consisting of native trees, shrubs and herbaceous species would be established along the banks. Trees would be allowed to grow to full mature height, and overhanging vegetation would be encouraged. In addition, structural diversity would be established in the channel through the placement of woody debris and cover. The channel would be wide enough and banks would be sloped in a manner to allow the formation of mud flats and bars.

Table 6-3. Resource impacts and proposed mitigative measures.

Resource Category	Impacts	Mitigative measures
Wetlands/Unique Area	1.9 acres of wetland habitats, 0.11 acres Black Willow area, 3.68 acres open water, 4.14 riverine/stream, 4 acres of low swale will be effected	Mitigate on a 3:1 ratio for all water habitats for a total of 16.69 acres.
Terrestrial	43 acres of Open/Ag fields, Mixed Hardwoods and Bottomland hardwoods habitats effected.*	Utilize approximately all remaining acreage (approximately 100 acres) for use in terrestrial impacts. Protective easements for set-aside areas and plantings. Wetland creation at soil-borrow.
Cultural Resources	Adverse effect on potentially eligible historic resources	Recordation.
Recreation	Loss of county fair and Pumpkin Festival parking	Grade soil borrow site for parking due to its close proximity to the festival location
Traffic & Transportation	Major traffic impacts during construction especially from truck transport of levee fill material	Use of alternate routes within the CWL rights-of-way, instead of town streets where possible.

**Urban, industrial and early oldfield habitat types not included.*

Additional enhancement and/or preservation measures would be developed in coordination with the USFWS and WVDNR to address the loss of functional values that can not be addressed in the relocated channel. These enhancement/preservation measures may include vegetative buffers that would restrict future encroachment of the river, installation of instream structures and/or bank stabilization measures outside of the impacted reach. Preservation and enhancement ratios would be developed based on the FA and concurrence of all parties.

Long-term monitoring of the reconstructed channel would occur to ensure that target conditions were met. Annual monitoring for a period of 5 years would occur, and would include requirements for monitoring after specified high-water events.

Traffic Mitigation

Traffic impacts would be mitigated to the maximum extent possible by utilizing the construction rights-of-way (levee) instead of town streets except when construction equipment and materials are delivered onsite. Costs for haul road alignment and temporary bridge construction are included in the overall project costs.

Recreation Mitigation

Recreation impacts from construction of the selected plan are primarily related to parking associated with the Pumpkin Festival and Cabell County Fair. Costs for relocation of parking facilities are included in the overall project cost estimate.

6.3 ECONOMIC ANALYSIS

First cost, annual cost and benefits, and effectiveness for the selected plan are summarized in this section. Project first cost represents the total monetary outlay to complete the selected plan. The base year for economic analysis is 2010, the earliest estimated completion date for the selected plan. The construction period is estimated to be 4 years, beginning in 2006 and completing in 2010. Both benefits and cost are expressed in October 2002 prices.

6.3.1 First Cost

First cost for the selected plan, is summarized in Table 6-4. Costs are given for each feature code of accounts, including contingencies. Detail costs to the sub-feature level are included in the Baseline Cost Estimate for the project. The first cost includes project construction, environmental mitigation, real estate acquisition, and engineering and design.

**Table 6-4.
First Cost for Selected Plan.
(Millions, October 2002 PL)**

Feature	Item	First Cost
01	Lands and Damages	\$4.91
02	Relocations	1.07
06	Fish & Wildlife Facilities	1.86
09	Channels & Canals	0.99
11	Levees and Floodwalls	14.82
13	Pumping Plants	6.03
22	Feasibility Studies	3.00
30	Engineering and Design	4.19
31	Supervisor and Admin	1.75
	Total	\$38.65

6.3.2 Investment Cost

Investment costs are the sum of project construction expenditures for the selected plan plus the accrued interest on those expenditures up to the time the project is complete and begins producing benefits. For Plan B that year is 2009. The accrued interest has been computed based on the sequence of construction for the project and a compound interest rate of 5 7/8%. The total investment cost for the selected plan is \$43 million based on an estimated interest during construction of \$4,420.

6.3.3 Annual Cost

The annual cost for the selected plan is the summation of annualized capital cost and estimated O & M cost. Annual capital costs include average annual interest and amortization charges on the investment cost, and have been computed using an interest rate of 6 1/8 % and a project economic life of 50 years. The estimated O & M costs are based on actual cost experience for similar local food protection projects constructed by Huntington District. These costs include maintaining the levee embankment, operating the pump stations and gate closure, and rehabilitation and future replacement of mechanical features of the project. A summary of the annual O & M cost components are provided in Table 6-5.

Table 6-5.
Summary of Annual O & M Costs

O& M Feature	Plan B
Materials & Equipment	\$5,000
Levee Embankment	\$14,000
Pump Stations	\$12,000
Highway Gate Closure	\$1,000
Total Annual O & M	\$32,000

6.3.4 Annual Benefits

Benefits attributable to the selected plan represent flood damages prevented up to the 0.4% annual flood (250-year) frequency expressed in annual values. Benefit categories include residential, commercial, personal property, utilities, transportation, and emergency cost reduction. The benefits were computed over a 50-year period using standard discounting procedures and an interest rate of 5 7/8%. A summary of the average annual benefits, average annual costs net benefits, and benefit-to-cost ratio are presented in Table 6-6.

Table 6-6.
Summary of Benefits and Costs
October 2002 PL

ITEM	COST
Annual Benefits	\$3.45 M
Annual First Cost	\$2.68 M
Annual O&M	\$32 K
Total Annual Cost	\$2.72 M
Net Benefits	\$729 K
Benefit-to-Cost Ratio	1.3

6.3.5 Effectiveness

Effectiveness describes the beneficial contributions of the selected alternative plan. There were over 362 structures damaged during the 1997 flood, and an estimated 734 structures would be inundated by the 1% chance (100-year) flood event. Of these structures, 6 would be acquired for project construction and 76 are located outside the protection limits. The selected plan protects 560 residences and 125 businesses in Milton up to the level of the 0.4% chance (250-year) flood event.

6.4 PLAN IMPLEMENTATION

6.4.1 Cost Sharing

The City of Milton and the West Virginia Conservation Agency are the sponsors for the Milton flood protection project. The total non-Federal share for the selected levee plan will be 25% of the project first cost or \$9.7 million, and the estimated cost for annual O&M is \$32,000. The non-Federal sponsors will be responsible for all lands, easements, right-of-way, relocations, and disposal (LERRD). The sponsors also must provide a minimum of 5% of the project cost as cash.

6.4.2 Institutional Requirements

Prior to initiation of construction, Congress must appropriate funds for the Federal share of project costs. Requirements for non-Federal participation must also be met prior to initiation of construction. This includes the execution of a Project Cooperation Agreement (PCA) between the local sponsor and the Federal government and the provision of all funds and/or work necessary to satisfy the cost sharing requirements in effect at the time of PCA execution. Upon completion of construction, the project will become the responsibility of the local sponsor for operation and maintenance.

6.4.3 Plan Development Responsibilities

The City of Milton and the West Virginia Conservation Agency are the non-Federal sponsors for the project. The primary local governmental body associated with development of the Milton Local Protection Project is the Town Council of Milton. The

council has shown a high level of interest in the project, and is expected to continually do so throughout the life of the project. Both the Town Council and the Conservation Agency have become familiar with the project formulation and implementation process and have participated in preliminary discussions concerning their legal capabilities and responsibilities to sponsor the project including acquisition of real estate. A Project Cooperation Agreement (PCA) specifying the responsibilities of all parties must be consummated prior to initiation of construction. The actual implementation of the Milton levee project is the joint responsibility of the Corps of Engineers (representing the Federal Government), the West Virginia Conservation Agency (representing the state of West Virginia) which will provide the non-Federal cost share funds, and the City of Milton (local sponsor) which will operate the completed project. The Corps of Engineers will complete the plans and specifications, provide funds and actually construct the project, and conduct an annual inspection of the completed project. The estimated total first cost is \$38.6 million, of which \$28.9 million is Federal cost and the non-Federal cost is \$9.7 million. The estimated annual cost of operation and maintenance of the completed project is \$32,000.

The following is a summary of the operation, maintenance, and management responsibilities of the non-Federal sponsors that will be contained in the Cooperation Agreement (PCA).

a. Provide 25% of the total project costs allocated to the structural flood control as further specified below:

(1) Provide all lands, easements, and rights-of-way, including suitable borrow and dredged or excavated material disposal areas, and perform or assure the performance of all relocation determined by the Federal Government to be necessary for the construction, operation, and maintenance of the project;

(2) Provide retaining dikes, waste weirs, bulkheads, and embankments, including all monitoring features and stilling basins, that may be required at any dredged or excavated material disposal areas required for the construction, operation, and maintenance of the project; and

(3) Provide, during implementation, any additional costs as necessary to make its total contribution equal to 10 percent of the total project costs allocated to flood control.

b. For so long as the project remains authorized; operate maintain, repair, replace, and rehabilitate the completed project or functional portion of the project, at no cost to the Federal Government, in accordance with applicable Federal and State laws and any specific directions prescribed by the Federal Government.

c. Give the Federal Government a right to enter, at reasonable times and in a reasonable manner, upon land that the non-Federal sponsor owns or controls for access to the project for the purpose of inspection and, if necessary after failure to perform by the non-Federal sponsor, for the purpose of completing, operating, maintaining, repairing, replacing, or rehabilitating the project.

d. Hold and save the United States free from all damages arising from the construction, operation, maintenance, repair, replacement, and rehabilitation of the project and any

project-related betterments, except for damages due to the fault or negligence of the United States or its contractors.

e. Keep and maintain books, records, documents, and other evidence pertaining to costs and expenses incurred pursuant to the project in accordance with the standards for financial management systems set forth in the Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments at 32 Code of Federal Regulations (CFR), Section 33.20.

f. Perform, or cause to be performed, any investigations for hazardous substances as are determined necessary to identify the existence and extent of any hazardous substances regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. 9601-9675, that may exist in, on, or under lands, easements, or rights-of-way that the Federal Government determines to be required for the operation, maintenance, repair, replacement and rehabilitation of the project. However, for lands that the Federal Government determines to be subject to the navigation servitude, only the Federal Government shall perform such investigations unless the Federal Government provides the non-Federal sponsor with prior specific written direction, in which case the non-Federal sponsor shall perform such investigations in accordance with such written direction.

g. Assume complete financial responsibility, as between the Federal Government and the non-Federal sponsor, for all necessary cleanup and response costs of any CERCLA regulated materials located in, on, or under lands, easements, or rights-of-way that the Federal Government determines to be required for the operation, maintenance, repair, replacement, or rehabilitation of the project.

h. As between the Federal Government and the non-Federal sponsor, the non-Federal sponsor shall be considered the operator of the project for the purpose of CERCLA liability. To the maximum extent practical, operate maintain, repair, replace, and rehabilitate the project in a manner that will not cause liability to arise under CERCLA.

i. Comply with the applicable provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, Public Law 91-646, as amended by Title IV of the Surface Transportation and Uniform Relocation Assistance Act of 1987 (Public Law 100-17), and the Uniform Regulations contained in 49 CFR, Part 24, in acquiring lands, easements, and rights-of-way required for the operation maintenance repair, replacement, and rehabilitation of the project, including those necessary for relocations, borrow materials, and dredged or excavated material disposal, and inform all affected persons of applicable benefits, policies, and procedures in connection with said act.

j. Comply with all applicable Federal and State laws and regulations including, but not limited to, Section 601 of the Civil Rights Act of 1964, Public Law 88-352 (42 U.S.C. 2000d), and Department of Defense Directive 5500.11 issued pursuant thereto, as well as Army Regulation 600-7, entitled Nondiscrimination on the Basis of Handicap in Programs and Activities Assisted or Conducted by the Department of the Army, and Section 402 of the Water Resources Development Act of 1986, as amended (33 U.S.C. 701b-12), requiring non-Federal preparation and implementation of floodplain management plans.

- k. Provide 5 percent of that portion of total cultural resources preservation, mitigation and data recovery costs attributed to flood control that are in excess of 1 percent of the total amount authorized to be appropriated for flood control.
- l. Participate in and comply with applicable Federal floodplain management and flood insurance programs.
- m. Prescribe and enforce regulations to prevent obstruction of or encroachment on the project that would reduce the level of protection it affords or that would hinder operation and maintenance of the project.
- n. Not less than once each year, inform affected interests of the extent of the protection afforded by the project.
- o. Publicize floodplain information in the area concerned and provide this information to zoning and other regulatory agencies for their use in preventing unwise future development in the floodplain and in adopting such regulations as may be necessary to prevent unwise future development and to ensure compatibility with protection levels provided by the project.
- p. Comply with Section 221 of Public law 91-611, as amended, and Section 103 of Public Law 99-662, as amended, which provides that the Secretary of the Army shall not commence the construction of any water resources project or separable element thereof, until the non-Federal sponsor has entered into a written agreement to furnish its required cooperation for the project or separable element.
- q. Provide and maintain necessary access roads, parking areas and other public use facilities, open and available to all on equal terms.
- r. Not use Federal funds to meet the non-Federal sponsor's share of total project costs unless the Federal granting agency verifies in writing that the expenditure of such funds is expressly authorized by statute.

6.4.4 Views of the Non-Federal Sponsor

During the course of the study, the City of Milton and the West Virginia Conservation Agency have demonstrated a strong interest in and support for a project that would reduce flood damages in Milton. These entities have expressed their interest in letters of intent which are included in the Correspondence Appendix. Representatives of the City Council and the West Virginia Conservation Agency have met with county, state, and Federal officials and received support for this project.